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NOTE	35p.; This document is a copyrighted publication of 3Com Corporation, but may be copied in whole or in part by schools and other educational or government institutions as long as the logo of 3Com Corporation is not altered or deleted. Accompanying 3Com E-Rate Reference Disk that requires a 386 PC or higher not available from EDRS.
AVAILABLE FROM	Electronic version of reference disk: http://www.3com.com/erate
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ABSTRACT

The Universal Service Fund, or E-rate, is a landmark funding measure that will change forever the role of technology in K-12 education. The fund allows eligible schools and libraries to purchase networking equipment, telecommunication services, internal connections, and Internet access at substantial discounts. Accompanied by the 3Com E-rate Reference Disk and Internet references, this workbook is designed to be a complete resource, with all the information and references educators and administrators need to apply for funding through the federal $2.25 billion Universal Service Fund. The workbook contains the following sections: (1) E-rate Background; (2) Steps To Apply for E-rate Funding; (3) Completing E-rate Applications; (4) School Connectivity Options; and (5) Electronic Resources. The accompanying computer disk contains application and instruction forms, example of a good technology plan, guide to creating a technology plan and conducting a technology inventory, database to determine if a school is urban or rural for purposes of calculating the E-rate discount, database of state departments of education, and the Schools and Libraries Corporation's summary of the Universal Service Fund and procedures for obtaining support. (SWC)

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ED 415 854

Everything you *always* wanted to **know** about **E-rate***

*(*But were afraid to ask.)*

http://www.3com.com/erate

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CoSN Consortium for School Networking

FR 01872S

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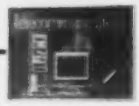
Introduction



The Universal Service Fund, or E-rate, is a landmark funding measure that will change forever the role of technology in K-12 education. At 3Com Corporation, we regard this as an exciting opportunity for schools to realize the power of our networking products to create revolutionary changes in the way people teach and learn.

This change will not occur automatically with the connection of classrooms to the World Wide Web, however. Technology, no matter how powerful and exciting, is a tool to make fundamental changes in education. The power of this tool can only be unleashed when teachers are trained and supported to use it effectively in their classrooms.

3Com has been involved for years in major initiatives that use technology as a tool for change. In every case, the success that schools have enjoyed in integrating technology into educational programs has been a function of their commitment to providing teachers with the tools necessary to make technology an essential component of curricula and programs.

We urge schools to take advantage of E-rate funding, and strongly recommend that you set aside sufficient funding for staff development.

About This Workbook

Accompanied by the 3Com E-rate Reference Disk and Internet references, the 3Com E-rate Workbook is designed to be a complete resource, with all the information and references you need to apply for funding through the federal $2.25 billion Universal Service Fund.

How to Use This Workbook

Skim through the workbook first to get an overview of everything required to make your district's or library's E-rate application a success. Then, as your application progresses, you should return to the workbook and the 3Com Reference Disk for specific guidance on the various tasks necessary to complete a successful request for E-rate funding.

Since the rules and regulations concerning E-rate continue to change, we have launched a Web site to keep you informed as new information becomes available: http://www.3com.com/erate. Check this site regularly to make sure you have the latest information.

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How to Use the 3Com E-rate Reference Disk

The accompanying 3Com E-rate Reference Disk, found on the cover of the workbook and at ***http://www.3com.com/erate*** provides additional information that you will find essential to complete your application. The files on the 3Com E-rate Reference Disk with a .doc suffix are formatted for PC compatible computers and Microsoft Word version 6.0 or higher.

The files for Form 470 and 471 are in PDF format. This format requires Adobe Acrobat Reader. Acrobat Reader can be downloaded free of charge from ***http://www.adobe.com/acrobat.***

To use this disk you must have a 386 PC or higher and be running Microsoft Windows 3.1, Microsoft Windows for Workgroups, Microsoft Windows 95, or Microsoft Windows NT 3.5.1 or 4.0. Documents on the disk include:

Form470.pdf	FCC Application Form 470
470Inst.Doc	FCC Instructions for completing Form 470
Form471.pdf	FCC Application Form 471
471Inst.Doc	FCC Instructions for completing Form 471
TechPlan.Doc	An example of a good technology plan to serve as a resource and model as you develop your own technology plan
TechGuid.Doc	A comprehensive guide to creating a technology plan and conducting a technology inventory
Location.Doc	A database that will help you determine whether your school qualifies as urban or rural for purposes of calculating your E-rate discount
Stateinf.Doc	A database of state departments of education and resources for locating the technology plan approval information for each state
SLCsum.Doc	The Schools and Libraries Corporation's summary of the Universal Service Fund and procedures for obtaining USF support
Readme.txt	Information on using the 3Com E-rate Reference Disk

Everything you always wanted to know about E-rate (But were afraid to ask.) and the 3Com E-rate reference disk are also available on 3Com's Web site at ***http://www.3com.com/erate***. This site will be updated regularly as information from the FCC and Schools and Libraries Corporation (SLC) is received.

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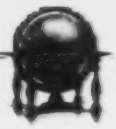
1. E-rate Background



1-1.

Overview

The federal government has historically established legislation aimed at providing telecommunications services at reasonable rates to every person in the United States. The Telecommunications Act of 1996, which has deregulated a wide range of telecommunications services, is the latest example. The Snowe-Rockefeller-Exon-Kerrey Amendment to this law is especially significant for schools and libraries, because it makes equipment and access to the Internet/World Wide Web affordable for educators, students, and library users. This amendment establishes a $2.25 billion annual E-rate fund that allows eligible schools and libraries to purchase networking equipment, telecommunication services, internal connections, and Internet access at substantial discounts.

What is SLC/USAC?

The Federal Communications Commission created two corporations to administer the E-rate for schools and libraries. These corporations are called the Schools and Libraries Corporation (SLC) and the Universal Service Administration Company (USAC).

Schools and Libraries Corporation

The SLC is responsible for ensuring that E-rate applications are processed promptly and properly, as well as auditing applicants to ensure that they comply with program regulations. E-rate applications are sent directly to the SLC. Once the SLC has processed and approved the application, it is sent to the USAC.

Universal Service Administration Company

USAC is responsible for making sure that the discounts reach libraries and schools. USAC is also responsible for collecting the money necessary from service providers to pay for the E-rate as well as reimbursing the telecommunications carriers and vendors for the discounts they are entitled to as a result of their participation in the E-rate program.

Qualifying for E-rate Funding

A school qualifies for E-rate funding if it is a non-profit public or private K-12 school in the United States operating as a non-profit business. Libraries qualify if they are public.

In addition:

- Schools must meet the statutory definition of an elementary or secondary school found in the Elementary and Secondary Education Act of 1965.
- Schools must not have an endowment exceeding $50 million.
- Post-secondary schools (colleges, universities, community colleges, junior colleges, adult education centers, post-secondary trade schools) do not qualify for E-rate funding.
- To qualify, a library must be eligible for assistance from a state library administrative agency under the Library Services and Technology Act.
- A library must operate as a non-profit business to qualify.
- An academic library is eligible *only* if its budget is independent from the budget of any institution of higher education.

1-2

Available Funding

Provided by contributions from interstate telecommunication service providers throughout the U.S., the E-rate contains $2.25 billion per year to be distributed among U.S. schools and libraries. The following guidelines are used to distribute this money.

If your application is received before the first $2 billion is allocated, you will qualify for E-rate funding provided your applications are complete and the services you seek are eligible. Otherwise, you will be put on a priority list that will allocate the remaining $250 million to the neediest schools and libraries first (those with the highest discounts).

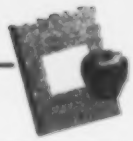
Funding for 1998 only will be lower than $2.25 billion because of the time it takes to collect funds. It is expected that there will be $625 million available through June 30, 1998, and an additional $1.25 billion between July1, and December 31, for a total of $1.875 billion.

Note: For 1998 only, a 75-day "window" has been established in which all applications submitted during the first 75 days will be treated as being simultaneously received for purposes of determining the priority of applications. Remember that both Form 470 and Form 471 must be submitted to fall within this application window. This window, because it gives all schools and libraries 75 days to apply, helps to equalize the E-rate opportunity for all schools and libraries. This window begins January 12 or on the date on which the fund process is made public (see Web site for more information http://www.3com.com/erate).

As you are preparing to apply for E-rate discounts, it is important to keep in mind:

- That schools and libraries must have a budget allocating funds to cover the non-discounted portion of the services requested. For example, if your school receives a 60 percent discount you would need to have funds budgeted to cover 40 percent of your request to E-rate. (Refer to Section 2-5 "Calculating Your E-rate Discount" for information on determining the E-rate discount and the school's or library's payment responsibilities.)
- Your school or library will have to certify that your technology plan has been approved before the actual flow of money can occur. Section 2-2 "Developing a Technology Plan" discusses technology plans. Refer to the 3Com E-rate Reference Disk (Files: *TechPlan.Doc* and *TechGuid.Doc*) as well as the Electronic Resource Section 5-2 "Technology Planning" for examples and guidance.

2. Steps to Apply for E-rate Funding



In order to complete the application process, schools and libraries must submit three separate forms to the SLC. These forms must be submitted in the following order:

1) Form 470 describes the services that a school/library intends to purchase. Using Form 470, the SLC will post the request for services to the SLC Web site for 28 days.

2) Form 471 details the services for which a contract has been signed. Form 471 can be filed with the SLC after the 28-day Web-posting period.

3) Form 486 confirms that contracted services are completed, and that the vendor should be paid by the SLC.

2-1.

Technology Inventory/Assessment

Once you know your school is eligible to participate in the E-rate program, (refer to Section 1-1 Overview) E-rate regulations require that you determine what is needed to provide telecommunication services and establish computer networks for your school/library. In addition to determining what your school/library already has, it is important to make note of the telecommunication-related goods, services, and facilities your school/library plans to acquire.

The purpose of this requirement is to demonstrate that your school or library understands all of the elements of planning and budgeting required to successfully integrate networking into educational and administrative programs. To assist you in completing a technology inventory/assessment, your school must gather data on:

- The computer equipment currently available at the school and any budgeted equipment
- The number of computers equipped with modems and the speed of those modems
- Internal connections—current and budgeted including video, voice or data connections, LANs, or WANs
- Available and budgeted software used for communicating over an internal or public network
- Experience and training received by relevant staff for use of the E-rate-discountable services
- Plans for additional staff training
- Existing or budgeted maintenance contracts to maintain computers
- The capacity of the school electrical systems to handle simultaneous uses

Note: Suggestions for finding the technology inventory/assessment information:

- **Check with the purchasing office for past purchases and inventory**
- **Review general fund and categorical budgets to identify planned staff development in the use of telecommunications equipment**
- **Check with the purchasing office for existing maintenance contracts on telecommunications equipment**
- **Check current year budget for planned maintenance contracts not already executed**
- **Meet with the facilities department for review and planning of school site electrical systems**

See the accompanying E-rate Reference Disk for further information about taking a technology inventory/assessment (Files *TechGuid.Doc* and *TechPlan.Doc*).

2-2.

Technology Plan

To qualify for E-rate funding you must have a technology plan approved by your designated state agency, usually the state department of education. Many states have already implemented an approval process for technology plans, so it is possible your school plan has already met this requirement. The SLC is currently developing a process for approving technology plans to assist schools who need this service.

Note: For state-by-state information on the technology plan approval process, see the 3Com E-rate Reference Disk (File *Stateinf.Doc*)

While you will be operating under application deadlines for approval, recognize that an effective planning process is one of the keys to successful technology integration. Listing technology requirements is just a small part of the process.

Developing an effective technology plan requires an interactive process and requires a team effort for success. Your technology planning team must work together to determine:

- Educational and administrative requirements and priorities for your network
- Corresponding technical solutions to meet the identified requirements
- School building infrastructure changes (electrical, air conditioning, security) required or desired
- Staffing level required and desired to support the network once it is in place
- Operating process and security measures that will provide for a high-quality, secure system
- Capital (new purchase) budget required to buy equipment and software
- Operational budget (ongoing costs) required to sustain the system after implementation
- Migration plan for future growth of your network (to be followed if all items are not to be purchased and implemented at the same time)

Technology plans and networks can be designed in a variety of ways, depending on the goals you wish to achieve and the realities of your budget. It is up to your school or library to decide which level of technology and network capability makes sense, keeping your present and future goals in mind. The key to a successful technology project starts with a good technology planning process. An effective plan should be revisited and updated on an annual basis.

See section 4 of this workbook for information on different levels of network connectivity in a school environment.

Note: Check the 3Com E-rate Reference Disk for suggestions on how to develop a strong technology plan, and for examples of effective technology plans developed by other schools (Files *TechPlan.Doc* and *TechGuid.Doc*).

2-3.

How to Apply

There are several ways schools and libraries can apply for funding. After your technology plan has been developed, the next decision to be made is whether or not you are going to apply as an individual school or as part of a group or consortium. This section will provide you with information that will help you make this decision. In order to take full advantage of E-rate, you should consider all the possibilities.

Consortia

When applying for E-rate discounts, consortia can be formed to aggregate costs. By participating in a consortium you can benefit from:

- Higher E-rate discounts
- Lower prices for Internet service
- Knowledge and support

For purposes of the E-rate program, eligible consortia include:

- A school district
- Activity between organizations—a school district might form a consortium with districts with which they plan to regularly transfer data or video traffic
- State or county educational organizations, county offices of education, or state departments of education can form statewide "hub" organizations whose purposes are to contract for telecommunications services or purchase networking equipment
- Community/geographic—a community might develop a network consisting of the local school district, library, community college, and city or township offices; in organizations of this type, some of the members may qualify for funds and others may not

E-rate encourages the formation of consortia and includes provisions for dealing with consortia that contain qualifying and non-qualifying members.

2-4.

Determine Funding Available to You

Several factors determine how much you can receive from E-rate.

- Specification of your needs in the Technology Plan and on Application Form 470
- Your place in the queue of requests for funds (Refer to Section 1-2 "Available Funding" for further information.)
- How much you have available to pay for goods and services not covered by E-rate
- How much of the project you can complete within the year funds are received (All projects funded in any year must be complete within that year.)
- How many other applicants there are. If applications during the 75-day window in 1998 (see Section 1-2) exceed the amount of funds, the SLC will have to decide how funds will be allocated.

2-5.

Calculate Your E-rate Discount

Funds come to the school in the form of discounts on the goods and services you are purchasing. Your level of discount is determined by:

- The percentage of students enrolled in or eligible for the National School Lunch Program (NSLP) as of December 1 prior to the filing of the application
- Whether the school or district is located in an urban or rural area (Libraries use the data for the school or district in which they are located)

Schools or libraries will be required to pay only the portion of their bill remaining after the discount has been applied.

Example: If a school or library is eligible to receive a 60 percent discount, it will be required to pay only 40 percent of the bill.

The vendors with whom the school or library has contracted to implement the discounted services will receive reimbursement from the USAC for the remaining 60 percent of the bill.

It is important to understand that discounts are calculated from the contract price, not the list price, of goods or services.

See the E-rate Schools and Libraries Discount Matrix below to determine your discount rate.

Note: To determine whether your school or library is urban or rural for the purposes of E-rate funding, refer to the 3Com E-rate Reference Disk (File *Location.Doc*). You can also contact your state education office (Refer to File *Stateinf.Doc* for contact information) or refer to the World Wide Web at: *http://www.neca.org/funds/msa/index.htm;* Instructions for using the MSA list can be found at: *http://www.neca.org/funds/msa/curl.htm.*

Alternative Discount Calculation

Schools not participating in the NSLP must certify the percentage of students who would be eligible for the NSLP if they did participate.

Libraries' discount percentage will be based on the national school lunch percentages of the school district(s) in which they are located. This figure could be an average of districts if more than one school district is involved.

Schools may use other measures of relative wealth as a substitute for percentage of students participating in the NSLP. These include percentage of Title I students, percentage of students qualifying for Medicaid, or any other federally approved income data that indicates the level of wealth in your attendance area.

Discount Calculation Examples

Required information for all calculations

- Pre-discount costs (contract price)
- Location (urban or rural)
- Total number of students
- Number of NSLP students

or

- Alternate number for determining poverty status (See previous section.)

The following examples take schools, libraries, or consortia through a step-by-step process to determine the Universal Service Fund discount rate as well as the portion of the contract price the Universal Service Fund and the school/library/consortia will pay.

E-rate Schools and Libraries Discount Matrix

Percent of Students Eligible for NSLP	Estimated Percent of U.S. Schools in Category	Urban Discount Percent	Rural Discount Percent
<1	3	20	25
1-19	31	40	50
20-34	19	50	60
35-49	15	60	70
50-74	16	80	80
75-100	16	90	90

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Example 1—Single School or Library

A. Determine Required Information

(The following data is for purposes of this example only)

Contract price of goods and services being purchased through E-rate	$20,000
Location (urban or rural)	Urban
Total number of students	1,500
Students qualifying for National School Lunch Program (NSLP)	675

B. Calculation

Percentage of students qualifying for NSLP	675 ÷ 1500 = 45%
E-rate discount (from matrix on page 8)	60%
USAC pays to vendor	$20,000 x 60% = $12,000
Amount your school or library pays to vendor (Contract price minus E-rate discount)	$20,000-$12,000 = $8,000

Example 2—School District Consortium

A. Determine Required Information

(The following data is for purposes of this example only)

School Location		Total Students	Number of Students Qualifying for NSLP	Pre-Discount Costs (Contract Price)
#1	Urban	300	225	$4,000
#2	Urban	200	100	$3,000
#3	Urban	750	281	$2,000
Total		**1250**	**606**	**$9,000**

In calculating discounts, E-rate regulations require schools to distinguish between shared services—those products and services, e.g., the cost of telephone lines or Internet access, in which schools share the use—and site-specific services, e.g., switches or hubs, in which all the benefits of the product belong to an individual school. These products and services must be separated from the consortium for the purposes of calculating your discount.

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Example 2—School District Consortium (continued)

B. Discount Calculation for Shared Services

1. Calculate the appropriate discount rate for each individual school or library.

Percentage of students qualifying for NSLP

School 1	225 ÷ 300 = 75%
School 2	100 ÷ 200 = 50%
School 3	281 ÷ 750 = 37.5%

E-rate discount from (matrix on page 8)

School 1	90%
School 2	80%
School 3	60%

2. For each school, multiply the discount rate for the school by the number of students in the school.

School 1	90% x 300 = 270
School 2	80% x 200 = 160
School 3	60% x 750 = 450

3. Add up the total for all schools from step 2 and divide by the total number of students in all the schools receiving benefit of shared services.

270 + 160 + 450 = 880

880 ÷ 1250 = 70.4%

4. E-rate discount

Round the result to the nearest percentage point. **70%**

5. USAC pays to vendor **$9,000 x 70% = $6,300**

6. Amount consortium pays to vendor **$9,000 – $6,300 = $2,700**

(Contract price minus E-rate discount)

C. Discount Calculation for Site Specific Services

The discount rate for site specific services would be the discount rate determined for each school in Step B-1 above and the process would be as illustrated in Example #1 (on page 9). Form 471 must be submitted for each individual school for site specific services.

Note: Calculating the appropriate discount rate is of primary importance in completing your application for E-rate funding. At the time this book was printed, discount calculation procedures were not finalized. Check 3Com's Web site at *http://www.3com.com/erate* for the most current information.

2-6.

Spending Your E-rate Funds

The E-rate allows eligible schools and libraries to purchase all commercially available telecommunications services, internal connections, and Internet access at discounted rates.

SLC has adopted the following policy statement on certification that services are being used for educational purposes:

"The primary purpose of the services for which support is sought must be the delivery of services into classrooms or other places of instruction at schools and libraries that meet the statutory definition of an eligible institution. Support for the administrative functions of library or education programs is permitted so long as the services are part of the network of shared services for learning. Universal service support will be limited to services delivered to the onsite educational facility or facilities. Services at a personal residence or at locations that do not host places of instruction or are not accessible to library patrons, with the exception of a centralized district office or similar facility, are not eligible for support."

What You Can Buy

Telecommunications services

- Regular telephone service for administration and teachers to receive phone calls in the classroom
- Long-distance telephone service
- Cellular service
- Pager service used for educational purposes and in the operation of the school. For example, pagers for school security officials, administrators, or health staff
- High-bandwidth telecommunications services—ISDN, T1 lines, fiber optic cable
- Satellite delivery for distance learning
- Wireless service
- Cable television service

Internet access:

- The Internet
  - E-mail
  - World Wide Web

Internal connections:

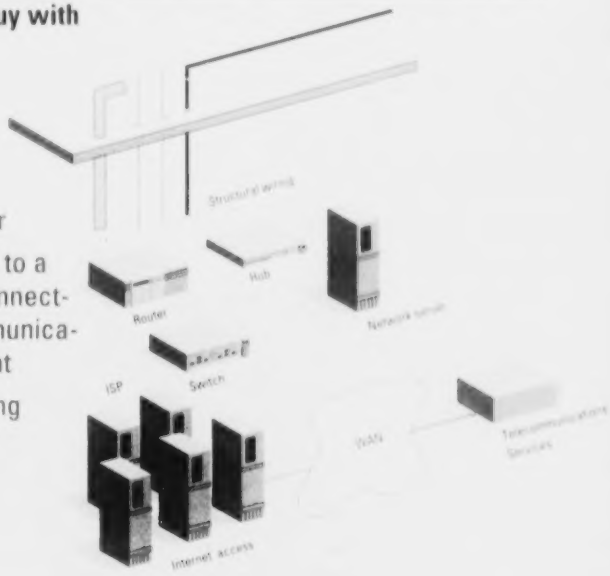
Internal connections are the method by which telecommunication services are networked into the school, classrooms, or library. The labor costs of basic installation and maintenance of a network are eligible for discounts. Examples of wiring include:

- Fiber optic cable
- Category 5 (twisted-pair) cable
- Coaxial cable
- Installation

continued on next page

What You Can Buy with E-rate Funds

- Router
- Switch
- Hub
- Network server
- ISP connected to a WAN cloud connected to telecommunications equipment
- Structural wiring



Networking equipment:

- Routers
- Hubs
- Switches
- Network file servers
- Wireless local area networks
- Software needed for operation of network file servers
- Personal computers used solely as switches or network file servers
- Network interface cards for file servers
- LAN upgrade
- Maintenance/service contracts
- PBX equipment

What You Can't Buy

Telecommunications services

- Content provided on cable TV or other telecommunication media

Internet access:

- Internet services that contain proprietary content, such as America Online, unless it is the most cost-effective access to the Internet

Internal connections:

Any physical upgrade not necessary to install telecommunication wiring

- Electrical system upgrades
- Asbestos removal that would result from telecommunication installations

Networking equipment:

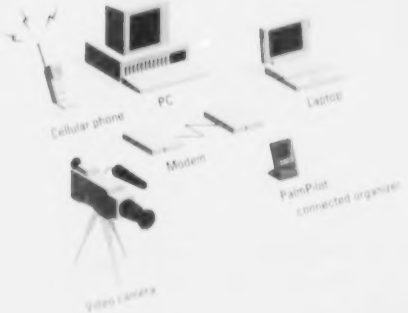
- File servers that supplement personal computers on a network

End user equipment and services:

- Personal computers or workstations for end users—teachers, students, administrators, office staff
- Software for end user personal computers or workstations
- Modems for end users
- CD-ROM towers
- Fax machines
- Telephones, cell phones, pagers (although monthly service costs do qualify)
- Voice mail
- TVs
- Cameras
- Microphones
- Professional development or teacher training for users
- Any employee salary

What You Can't Buy with E-rate Funds

- PC
- Modem
- PalmPilot
- Cell phone
- Video Camera



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2-7.

Application and Waiting Period—Form 470

Step 1
The school or library submits an application (Form 470) to the SLC. Refer to Section 3 "Completing E-rate Applications" for assistance and instructions for completing Form 470. Form 470 and the complete FCC instructions for Form 470 are available on the 3Com E-rate Reference Disk (File *Form470.pdf, 470Inst.Doc*). You are encouraged to submit your applications electronically to the SLC web site, ***http://www.slcfund.org.*** However, you may also fax or mail the application if necessary. Keep in mind there is no limit regarding the number of applications for E-rate discounts a school/library can submit during a year. As long as E-rate has money, qualified applications will be approved and funded.

Step 2
SLC will post the information from each school application (Form 470) to their Web site ***http://www.slcfund.org***. This information will be comparable to the RFP for goods and services.

Step 3
The SLC will send a confirmation of the Web site posting to the school or library along with a tracking number for each applicant within seven to ten days.

Step 4
Once the E-rate administrator posts the school's or library's request for services on the Web site, the school or library must wait 28 days to submit Form 471. Refer to Section 3 "Completing E-rate Applications" for assistance and instructions for completing Form 471, which is available on the 3Com E-rate Reference Disk (File: *Form471.pdf*).

2-8.

Bidding and Contracting—Form 471

Step 1
During the four-week waiting period, providers or vendors will look at the Form 470s on the Web site and submit bids to those schools or libraries for which they wish to provide services.

Note: It is important to understand that the E-rate process does not supersede any local laws or regulations pertaining to bid requirements. All state and local procurement laws, regulations, and procedures must be followed.

Step 2
Schools or libraries are given maximum flexibility in selecting the provider(s) or vendor(s) of their choice. There is no requirement to select the lowest responsible bid, nor is there a minimum required number of bidders. However, you must follow any state or local laws pertaining to procurement.

Step 3
Form 471 and a copy of the signed contract must be sent to the SLC indicating the money needed for the current funding year as well as an estimate of the request for the following year. (Refer to Section 3 "Completing E-rate Applications" for assistance and instructions for completing Form 471.)

Note: Discounts will be applied as of January 1, 1998 for qualified pre-existing contracts. For contracts covering new services with approved discounts, the discounts will be applied as of the date the contract is signed. The SLC will notify applicants of the approval and commitment of funds.

Note: An applicant's seniority with respect to the E-rate will be determined by the date on which a school or library submits Form 471 with a signed contract to the SLC. For the initial applications for 1998, there is a 75-day window during which all applications submitted will be treated as being received simultaneously. The window begins on January 12, or the date on which the process becomes public, so any Form 471s received by the last day of the 75-day window will have the same "place in line." For more information see *http://www.3com.com/erate*.

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2-9.

Ordering Goods and Services and the Payment Process—Form 486

Step 1
If sufficient funds are available in E-rate, the SLC will commit the necessary funds for the future use of the school or library and notify them that they may begin fulfilling the contract.

Step 2
The school or library notifies the selected provider(s) or vendor(s) to begin fulfilling the contract.

Step 3
Once the school or library has received the contracted goods and services from the provider(s) or vendor(s), it must notify the SLC to start the flow of E-rate support funds to the provider(s) or vendor(s) by submitting Form 486 (Receipt of Service Notification Form). Although Form 486 is not available as of the printing of this guide, look for it in early 1998 on the World Wide Web at ***http://www.3com.com/erate.***

Step 4
Upon receipt of Form 486 and a bill from the vendor the SLC has 20 days to approve the bill and forward it on to the Universal Service Administration Company (USAC) for payment. USAC then has 20 days to process payment.

Step 5
School or library issues a check to the vendor for its portion of the amount of the invoice less the E-rate discount. Refer to Section 2-5 "Calculate Your E-rate Discount" for assistance in determining the school or library portion of the contract.

2-10.

Contracting with Vendors

Vendors can often offer lower prices on multiyear contracts for ongoing services. E-rate has made provisions for schools and libraries to take advantage of multiyear contracts as well. However, commitments by E-rate for discounted rates will only be given on a year-by-year basis, not for the entire term of the contract. It is not a requirement for schools and libraries that have existing contracts to submit a description of services for posting on the Web.

Note: It is imperative that schools and libraries know the date on which contracts are signed. The steps you must take in the application process depend upon this information.

Categories and Conditions of Existing Contracts

For contracts signed before November 8, 1996:

- It is not necessary to end the contract to obtain a discount
- Competitive bidding for the 1998 portion of that contract will not be required
- Schools and libraries may not receive a discount on services provided before January 1, 1998
- Automatic or voluntary renewal of an existing contract without rebidding is not allowed

For "black hole contracts," those signed between November 8, 1996 and January 12, or the date on which the E-rate process begins:

- Posting to the E-rate Web site is not required if the contract covers only services provided to the school or library before December 31, 1998
- Schools or libraries may not receive a discount on services provided before January 1, 1998
- Automatic or voluntary renewal of an existing contract without rebidding is not allowed

All services extending beyond 1998 must go through the complete E-rate application process.

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Contract Types

The type of contract your school, library, or consortium pursues will determine the E-rate discounts received. In addition to individual contracts, two options available are master contracts and aggregation.

Master Contracts

A master contract is one method that schools and libraries can use to collaborate and help share costs when purchasing goods and services. Some examples of master contracts are:

- State negotiates a contract and rate for all schools in the state
- School district negotiates a contract and rate for all schools in the district
- County office of education negotiates a contract and rate for all schools in the county

In a master contract, there is one contract and one set of rates. However, the individual schools, libraries, or districts receive separate bills for the services they actually use. (Refer to Section 2-5 "Calculate Your E-rate Discount," calculation example 2 for reference in calculating the USF discounts for master contracts.)

Aggregation

Another method schools and libraries can use to collaborate and help share costs is by aggregating services. In the case of aggregation, the state, school district, or county office of education would not only negotiate the contract and rate for everyone in the group, but it would also sign the contract for services and pay the entire bill. (Refer to Section 2-5 "Calculate Your E-rate Discount," calculation example 2 for help in calculating the USF discounts for aggregated services.)

E-rate Contract Prices

Vendors are required to offer telecommunications services and products to schools and libraries at prices no higher than the lowest price they charge to similarly situated non-residential customers, known as the Lowest Corresponding Price (LCP).

LCP is an upper limit on the price that can be charged to schools and libraries in a non-competitive or competitive market.

The geographic area, for LCP applicability, is the area in which a service provider is seeking to serve customers with any of its services.

Service providers are required to offer their LCP throughout their geographic service area. It is not necessary for them to offer the same LCP to different schools and libraries in the same geographic area if they are not similarly situated and subscribing to a similar set of services.

Vendors who are not telecommunication service providers are required to offer goods and services to schools and libraries participating in the E-rate at reasonable prices. Prices for goods and services cannot be elevated from normal pricing structures for acceptance into the E-rate program.

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3. Completing E-rate Applications

All schools, libraries, and eligible consortia requesting universal service fund discounts must file Form 470, *Description of Services Requested and Certification* and FCC 471, *Services Ordered and Certification.*

We strongly recommend that you use the instructions for each form provided by the Schools and Library Corporation. You will find both forms on the E-rate Reference Disk in the following files:

- Form470.pdf
- Form471.pdf

Instructions are on the E-rate Reference Disk in these files:

- 470Inst.doc
- 471Inst.doc

Note: All schools and libraries applying for E-rate funds must fill out both Form 470 and Form 471. If you are purchasing off existing contracts (see Section 2-10), you do not need to go through the process of having your application placed on the SLC Web site for 28 days. When you file your Form 470, you will receive an E-rate reference number. Once you have that number, you can immediately file Form 471. However, to keep the process of prioritizing applications fair, the SLC will not process Form 471 until 28 days after Form 470 is received.

Large sums can depend on the accuracy of your submission. Take the time to make sure your forms are properly executed and complete.

3-1.

Form 470

All schools and libraries, or consortia acting on behalf of schools and libraries, must file FCC Form 470. It is important to note that the entity that should complete Form 470 is the one that will negotiate with potential vendors.

Schools and libraries or the consortia are encouraged to fill out FCC Form 470 electronically by completing the form at *http://www.sl.fcfund.org*. We recommend that you fill out a hard copy first to ensure accuracy. Keep your technology inventory close at hand—the importance of knowing what your school or library already has in place and how much is budgeted is critical.

Form 470 is a document that enables potential vendors to bid on the goods and services you require. Even though your school or library may have an existing contract, which will exempt you from the competitive bidding phase, you must complete and submit Form 470.

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Note that Form 470 is for E-rate purposes only. It does not replace any local or state procurement requirements.

You will need to supply summary information of the goods or services you are requesting for USF discounts. If you have an existing contract, this step will not be necessary. If you have filed a Request For Proposal (RFP), you will need to indicate the Web site address where it is posted, or the contact person and contact information that will enable vendors to submit bids efficiently.

If you do not have an existing contract or a RFP, you will then supply information and describe your needs for telecommunications services, Internet access, and internal connections on Form 470. Be sure to follow the step by step instructions provided.

Be sure to read Block 5 Section 19, "Listing Consortium Participants" carefully (see page 7). Having a firm understanding of who the billed entity will be in your situation is essential for submitting your USF application Form 470. Schools or libraries applying individually are the billed entity. If you are a consortium of multiple billed entities, you should list each billed entity separately. An entity is considered a "billed entity" if it will receive a

separate bill directly for services it receives; or it will be responsible for reimbursing a billed entity for the portion of services it receives. Thus, individual schools in a school district or library branches in a library system would not be billed entities if the school district or library system pays the bills for eligible services without seeking reimbursement from the schools and library branches, respectively.

On the other hand, if a state files Form 470 on behalf of its school districts and each of the school districts will be charged for the services it receives, each of the school districts would be considered a billed entity.

Certification

When you send in Form 470, you will be required to certify the correctness of the information you have provided. Carefully read the certification options and select the correct options for your school, library or consortium. Remember: you must keep records to support these certifications in the event of an audit.

Certifications requested:

- Eligibility to participate in the program
- Technology Plan compliance
- Services will be used for educational purposes
- Support structures and services will be in place
- Authorized personnel submitting the application

3-2.

Form 471

Form 471 is submitted after Form 470 has been submitted and the applicant has a signed contract.

Each entity actually paying bills to the service provider or vendor for the schools and libraries is a billed entity. Remember that each billed entity should file a separate Form 471. One copy of Form 471 must be filed *each time* the applicant seeks a commitment of funding for a specific set of goods or services.

Pay special attention to Block 3, "Characteristics of Applicant and Applicant's Service Order." In this block on Form 471 (see page 18), you should provide estimates based on the schools and libraries in your request. These schools and libraries may be a subset of the ones in your Form 470. For example, an entire state may file a Form 471 for a master contract on behalf of all of its public school districts. An individual school district buying off of that master contract may file a Form 471 for the goods and services it is purchasing.

Block 5, "Services Ordered" (see page 19), provides information about the items you have ordered, which will enable the administrator to estimate your funding needs. You must base your spending estimates on the amounts you are willing and able to spend to cover the charges for purchases after the discount has been applied. Be certain when you are completing tables 15 and 16 that each service or purchase is listed only once.

When completing this section, you must distinguish

Block 5, Section 19

19. Eligible Entities: (Billed Entities.) If applicant is an individual school or a library or a school district or a library system that will receive only one bill, it should only fill in the first row of this chart. If applicant is a consortium of multiple billed entities, then it should fill out a row for each billed entity. (Applicant may attach additional pages.)

Billed Entity	Billed Entity's Zip Code	Billed Entity Code (Inserted by Administrator	Zip Code(s) of Recipients of Service

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between items that are "shared," and those that are "site specific." Shared services are listed in the table 15 (shown on p. 19). An important note to remember is that dedicated connections from individual schools or libraries to a district or office or even to a telecommunications company central office are considered "shared" connections to a network for the purposes of this section.

All "site specific" services should be listed in Table 16 (shown on next page). These include:

1) internal connections, e.g., routers, hubs, switches, or wiring for a single school or library; or

2) dedicated ("private line") connections from a single school or library to an Internet service provider.

Remember that you can aggregate discounts for shared services, but must calculate separate discounts for each school for site-specific services. For information on how to calculate discounts, see Section 2-5

Column 8 of this section will contain the estimate of your non-recurring (one time) pre-discount charges for each item you list.

Column 9 contains the estimate of your monthly pre-discount charges for each of the services listed. This column is the location of the estimate if you expect to pay in multiple installments over the funding year. You would amortize this estimate as part of the monthly charges and place the amount in column 9.

Certification

When you send in Form 471, you will be required to certify the correctness of the information your have provided. Carefully read the certification options and select the correct options for your school, library or consortium. Remember: you must keep records to support these certifications in the event of an audit.

Certifications requested:

- Eligibility to participate in the program

Block 3: Characteristics of Applicant and Applicant's Service Order (derived from FCC Form 470 Blocks 2 & 3)

8a. Number of students	8b. Number of library patrons
9. Number of buildings to be served	10. Number of rooms to be served

	Existing Service	Total Services After Order
11. Telecommunications Services		
a. Number of phones that have or require service (See instructions concerning extension phones and fax machines.)		
b. Number of computers that have or require service		
c. Number of high bandwidth video conferencing links		
12. Internal Connections		
a. Number of buildings with at least some rooms connected		
b. Number of rooms connected		
c. Highest speed of connection		
13. Internet Access		
a. Number of dial up connections		
b. Highest speed of such dial up connections		
c. Number of direct connections		
d. Highest speed of such direct connections		

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Block 5: Services Ordered

15. "Shared" Services. ALL EXCEPT site specific, internal connections and dedicated ("private line") connections from only one school or library to an ISP or other end-user.

(1)	(2)	CONTRACT			(6)	(7)	Amount			(11)
SLC Service Provider Number or Full Legal Name of Service Provider	Universal Service Control Number for Form 470 on which this is based	(3) Contract Number (if applicable)	(4) Award Date	(5) Expiration Date	Services or Products	Service Start Date	(8) Estimated One Time Pre-discount Cost	(9) Estimated Monthly Pre-discount Cost	(10) Estimated Total Annual Pre-discount Cost	(--) Percentage Discount (from Item 14)
					Telecommunications Services					
					Internet Access					
					Internal Connections (Shared)					
					Telecommunications Services					

- Technology Plan compliance
- Goods and services will be used for educational purposes
- Support structures and services will be in place
- Disadvantaged schools and libraries receive an appropriate share of shared services
- Retention of worksheets and other records supporting your application for five years
- Authorized personnel submitting the application

Applicants should retain any worksheets and other records they use to compile the Application Forms for five years. Thus, if applicants represent multiple billed entities, collect data from those entities, and add up that data, they should retain those data sheets for five years. If an applicant is audited, it should be able to demonstrate to the auditor how the entries in its application were provided.

Note: Refer to the 3Com E-rate Reference Disk for the complete Instructions for Form 470 and Form 471 as well as the application forms.

- **470Inst.doc**
- **471Inst.doc**
- **Form470.pdf**
- **Form471.pdf**

16. "Site Specific" Services. Internal connections not shared by multiple schools or libraries and dedicated ("private line") connections from only one school or library to an ISP or other end-user.

(1)	(2)	CONTRACT			(6)	(7)	Amount (See instructions about rounding.)			(13)	(12)
SLC Number of Service Provider (Different from Service Provider)	Universal Service Control Number for Form 470 on which this is based	(3) Contract Number (if applicable)	(4) Award Date	(5) Expiration Date	Services or Products	Service Start Date	(8) Estimated One Time Pre-discount Cost	(9) Estimated Monthly Pre-discount Cost	(10) Estimated Total Annual Pre-discount Cost	Percentage Discount (from Item 14)	School or Library Code (Limited to 4 digits)
					Dedicated Services						
					Internal Connections						
					Dedicated Services						
					Internal Connections						

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4. School Connectivity Options
3Com Networking Guide for Schools

4-1.

Level I: Basic Internet Access for School Computer Labs

This is a first, simple stage of network connectivity that can scale into a larger, more robust network. The computer network provides a local area network (LAN) within a computer lab, a connection for a local server, and a wide area network (WAN) connection to a local telephone line. The telephone line provides the link to a district office or an Internet service provider (ISP) for Internet access.

Equipment needed:

- **Router.** This device operates between the LAN (Ethernet switching hub) and the data line. The options available depend on your choice of ISP.
- **Ethernet switches.** These devices are the central connection point for the network. Each PC will have a separate data cable (Category 5 UTP with RJ-45 connectors) running from the PC to the switch. The switch will provide 24 Ethernet 10 Mbps ports for the client PCs and the router and one Fast Ethernet 100 Mbps port for the server. For computer labs with more than 24 PCs, additional switches can be interconnected.
- **Network interface cards** (NICs) for each of the PCs and the server. Our recommendation is to install 10/100 Mbps NICs whenever possible. This allows an easy upgrade from Ethernet to Fast Ethernet.

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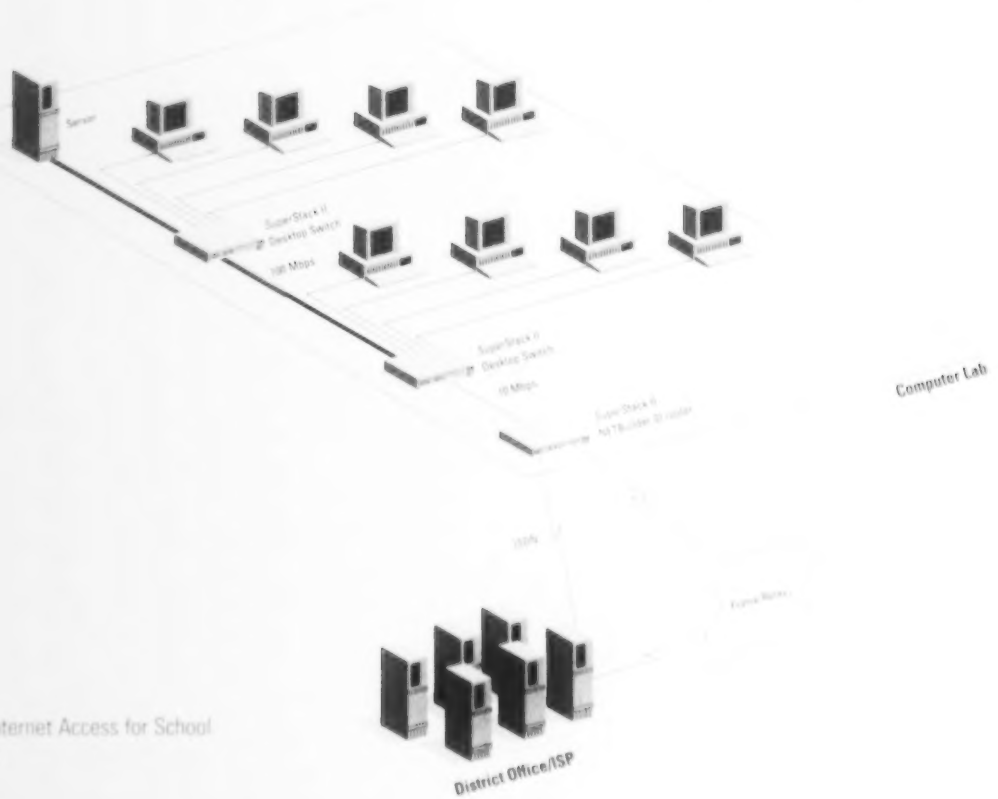
3Com Ordering Information

Routers	
3C8432	SuperStack II NETBuilder SI 432 IP/IPX Router (for ISDN, Frame Relay T1 services)
The 3C8432 requires the following module:	
3C8043T	SuperStack II NETBuilder SI T1/FT1CSU/ DSU Module

Ethernet Switches	
3C16902	SuperStack II Desktop Switch (24 switched 10 Mbps ports, one 100 Mbps port)
3C16922	SuperStack II Switch 100BASE-TX Module (for interconnection of additional switches)
NICs	
3C905-TX	Fast EtherLink 10/100 PCI TPO (RJ-45 connector only, uses PCI backplane)

Other products needed to complete your network (covered by E-rate):

- **Network server.** This is the PC that acts as the central storage for the network and the connection to the printer.
- **Data service.** This is the link to your Internet Service Provider (ISP). You should consult with your local telephone or cable company to determine the best level of service that meets your needs. Options include ISDN, Frame Relay, or cable TV service.
- **ISP.** There are many options for connection to the Internet. A local provider should be chosen based on service level, speed, capacity, and cost.



Level I: Basic Internet Access for School Computer Labs

4-2.

Level II: Basic Internet Access Extended to Classrooms

As your network grows, you can add to rather than replace equipment in your Level I network. The central point of the network now moves from the computer lab to a location more central to all the classrooms. This is often in the office or wiring closet where the incoming telephone lines are located. Easy access to telephone lines is a must.

The main changes to the network include:

- A larger number of PC nodes on the network. This means more hubs, switches, and NICs.
- Permanent data cables to connect the classrooms to the wiring closet. The recommendation for data cables is to use Category 5 UTP wiring for all cable runs that are less than 100 meters. This applies to all cabling within a building and cabling between buildings where the cable is accessible but protected from weather and tampering. For runs longer than 100 meters and cabling that runs in underground conduits, multimode fiber is generally the best option.
- Greater network traffic. This usually requires larger, faster data lines. A switch located in the wiring closet is an effective way to segment the traffic on the network and avoid congestion during busy periods.

Additional Equipment Needed for Level II Connection:

- **Computer lab switch.** The switch(es) in the computer lab do not change. However, a 100 Mbps uplink module must be added to connect them to the central wiring closet. This module can use either a UTP cable (less than 100 meters) or a fiber cable (more than 100 meters).
- **Ethernet wiring hubs.** With the network now extending into the classroom, smaller hubs are needed in each of the classrooms where PCs are located. These hubs are less expensive since they typically provide only four or eight connections.
- **Central wiring closet.** This is where the cables from each of the classrooms terminate. The termination device is a 10/100 Mbps switch that can provide 100 Mbps ports for the computer lab and the servers and 10 Mbps ports for the classroom hubs.

  The wiring closet is also a good place to locate the servers for the network, especially if there are multiple servers. This gives everyone on the network equal access to the servers and allows for easier maintenance and security. Servers should operate on 100 Mbps links. This allows the server to share more of its power among multiple users.

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Additional 3Com Ordering Information

Wiring Hubs for Classrooms

3C16700	OfficeConnect Hub 8/TPO (8 RJ-45 connections), *or*
3C16704	OfficeConnect Hub TP4 (4 RJ-45 connections)

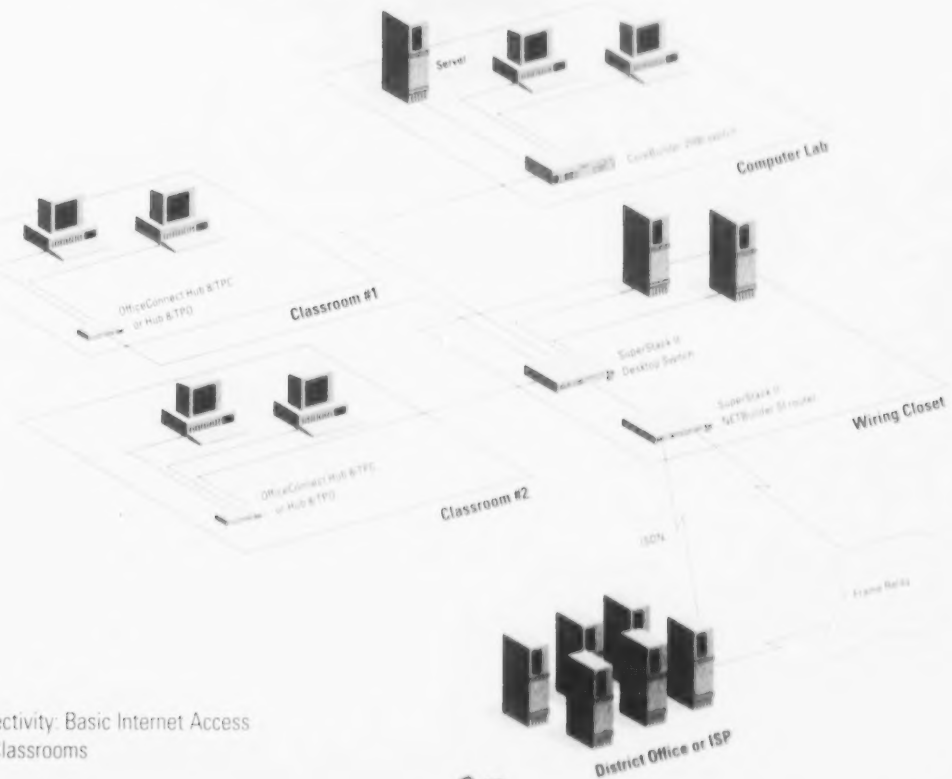
Central Wiring Closet Switch

For installations using UTP cabling:

3C16942A	SuperStack II Desktop Switch (12 ports for 10 or 100 Mbps operation)

For installations using a combination of UTP and fiber:

3C250100A	CoreBuilder 2500 Switch Chassis
3C201000	CoreBuilder 2500 10BASE-T Module (8 RJ-45 connections)
3C201400A	CoreBuilder 2500 10BASE-FL Module (8 fiber connections)



Level II Connectivity: Basic Internet Access Extended to Classrooms

25

4-3.

Level III: Networking the School District

There are advantages and economies to having the district office act as the central point of the network for all the schools in the district. The network links together all the schools in one large Wide Area Network. Also, the district office can maintain a high-speed telephone or cable connection to the Internet and share the bandwidth and costs across several schools. By centralizing this connection a school district may require fewer network management staff.

The main changes to the network include:

- The number of PC nodes on the network grows proportionately. This means more NICs, hubs, and switches.
- Each school now maintains a data line to the district office rather than directly to the ISP.
- Each school can operate with a simpler and less expensive routing device.
- The district office will operate a high-density router connected to the ISP.

Additional Equipment Needed

- **At the district office:** This is where the high-density router is located. It will have a connection for a data line from each of the schools in the district. It will also have a high-speed line for connection to an ISP.

The district office will likely have an administrative network operating within the building. This requires a local connection from the router to a hub and then to the individual PCs.

3Com Ordering Information

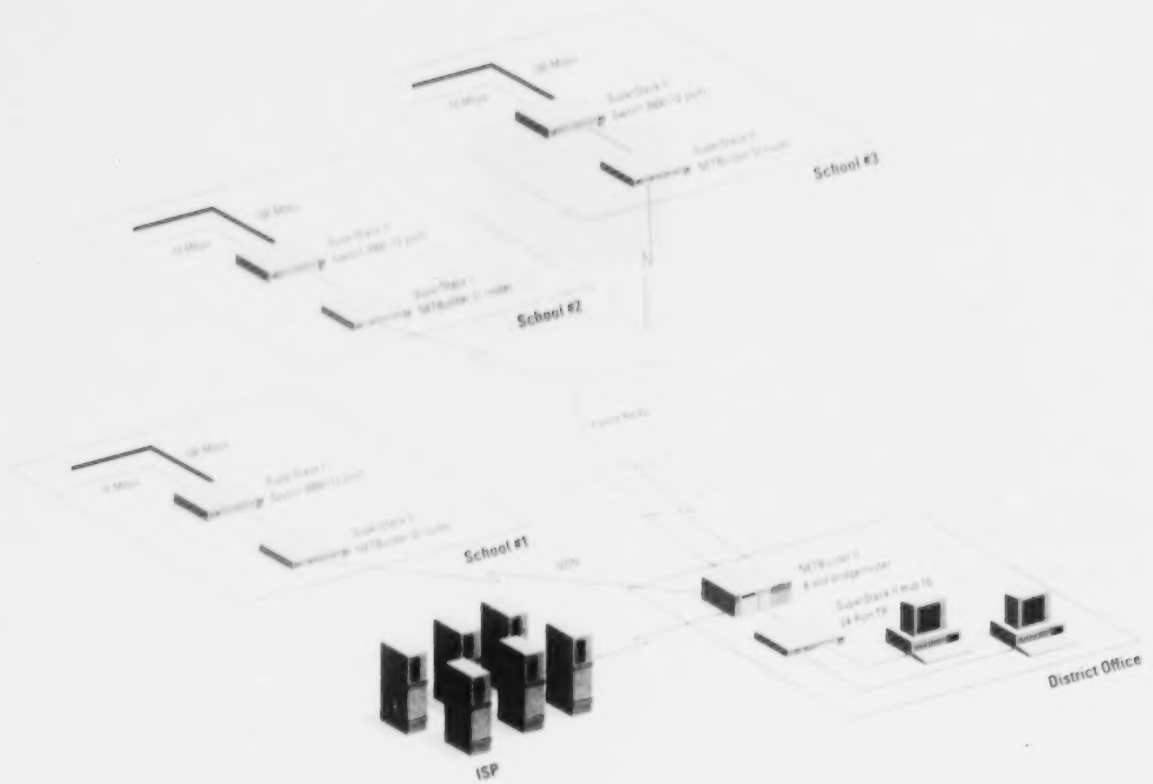
Router for the District Office

3C6903	NETBuilder II EZBuilt System (4-slot chassis plus memory and software), *or*
3C6904	NETBuilder II EZBuilt System (8-slot chassis plus memory and software)

The 3C6903 and 3C6704 require one or more of the following modules:

3C6040	NETBuilder II V.35 WAN Module (3 ports)*
3C6060	NETBuilder 10BASE-T Ethernet Module (6 RJ-45 connections)

**Requires a separate DSU/CSU device for Frame Relay or T1 services*



Level III: School District Network

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4-4.

Level IV: Advanced Multimedia Network

This is a high bandwidth network designed for heavy traffic loads consisting of large graphics files, full-motion video, and voice traffic to deliver multimedia curricula to the classroom. In networks where only a portion of the users have requirements for the additional bandwidth, specified segments of the network can be upgraded without affecting the other parts of the network. Where available, Asynchronous Transfer Mode (ATM) is an increasingly popular option for the connections between the schools and the District Office.

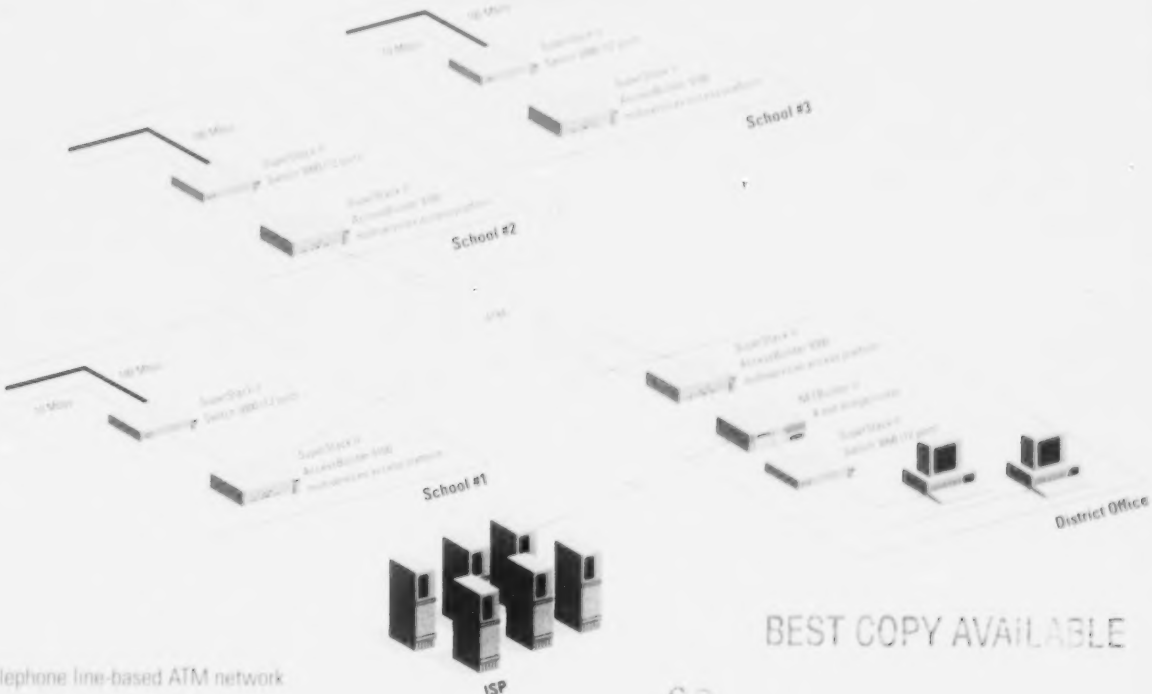
The main changes to the network:

- Local Ethernet wiring hubs should be upgraded to shared or switched Fast Ethernet. Current devices can be moved from the network core to the edge
- The school backbone should be upgraded from Ethernet to Fast Ethernet
- Telephone lines should be upgraded to higher performance services using ATM
- The District Office will need higher performance telephone services
- Local PCs and servers should be upgraded to 100 Mbps Fast Ethernet NICs

3Com Ordering Information

Local Wiring Hubs/Switches

3C16722	OfficeConnect Hub TP800 (8 100BASE-TX) recommended for classroom use with 7 or fewer PCs
3C16941A	SuperStack II Switch 3000 TX (8 100BASE-TX ports)
3C16920	SuperStack II 100BASE-FX Fiber Module (uplink)
3C16922	SuperStack II 100BASE-TX Copper Module (uplink)
3C16930	SuperStack II ATM OC-3c Module (uplink)



Telephone line-based ATM network

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The limiting factor in multi-media networks is generally the speed of the WAN connections. T1 lines operate at 1.5 Mbps while ATM typically operates at 155 Mbps over fiber cables. In many metropolitan areas all-fiber networks are becoming available from the local telephone company and also from private companies. These fiber links can span several miles to interconnect schools to their district offices. The bandwidth increases 100-fold within the network and will handle all current applications as well as growth for future requirements.

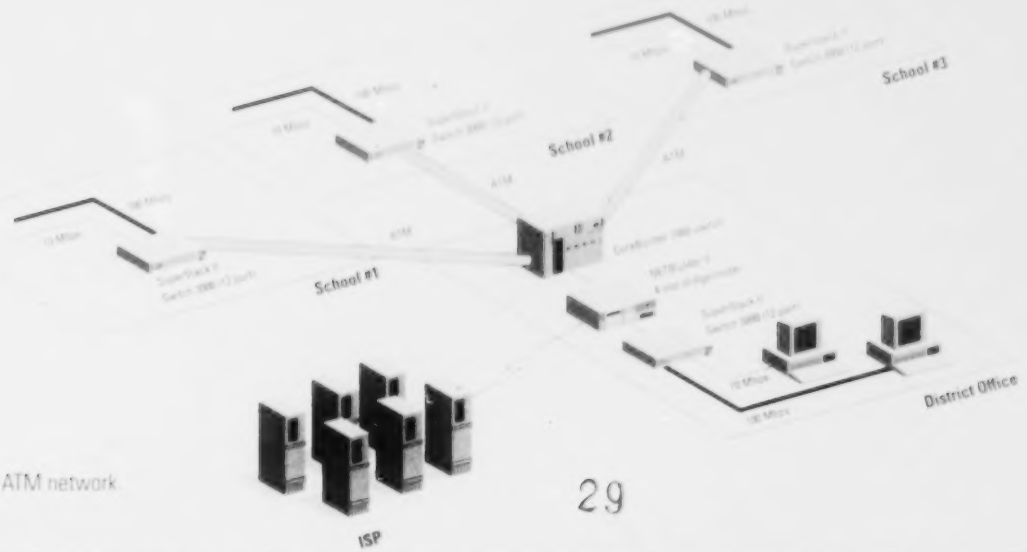
The main changes to the network:

- Addition of a large ATM switch at the School District Office
- Addition of ATM transceiver modules in the SuperStack II switches in the schools

Central Wiring Closet	
3C63502-NC	AccessBuilder 9100 Base System (1 T1 WAN port; 1 10BASE-T port)
3C16940A	SuperStack II Switch 3000 (5 100BASE-FX ports, 1 100BASE-TX port)
3C16941A	SuperStack II Switch 3000 TX (8 100BASE-TX ports)
3C16942A	SuperStack II Switch 3000 10/100 (12 10/100 RJ-45 ports)
School District Office	
3C63300-AC	AccessBuilder 9300 ATM Multi-services Platform (4 T1 WAN port, 1 V.35/RS-449 port)

Additional equipment needed:

School District Office	
3C37000A	CoreBuilder 7000 Switch chassis
3C37005	CoreBuilder 7000 4-port interface card (requires 1-4 physical modules)
3C37060	CoreBuilder 7000 Physical Module (one ATM multimode fiber)
3C37058	CoreBuilder 7000 Physical Module (one ATM single-mode fiber)
Central Wiring Closet	
3C16922	SuperStack II 100BASE-TX Copper Module (uplink)
3C16942A	SuperStack II Switch 3000 10/100 (12 10/100 RJ-45 ports)



Fiber-based ATM network

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5. Electronic Resources

5-1.

E-rate Information

The following E-rate Web sites are included in this section to provide you with a variety of places to obtain comprehensive information on E-rate. These sites are updated frequently to assure that you will be able to find the latest updates.

Federal Communications Commission

The FCC continues to play an important role in the implementation phase of the E-rate. As information about the program becomes available, you will be able to find it at the FCC site.

http://www.fcc.gov/telecom.html

LearnNet

LearnNet is the FCC's informal education page. This Web site will give you the most current information concerning E-rate as well as numerous other useful World Wide Web resources.

http://www.fcc.gov/learnnet/

National Exchange Carrier Association (NECA)

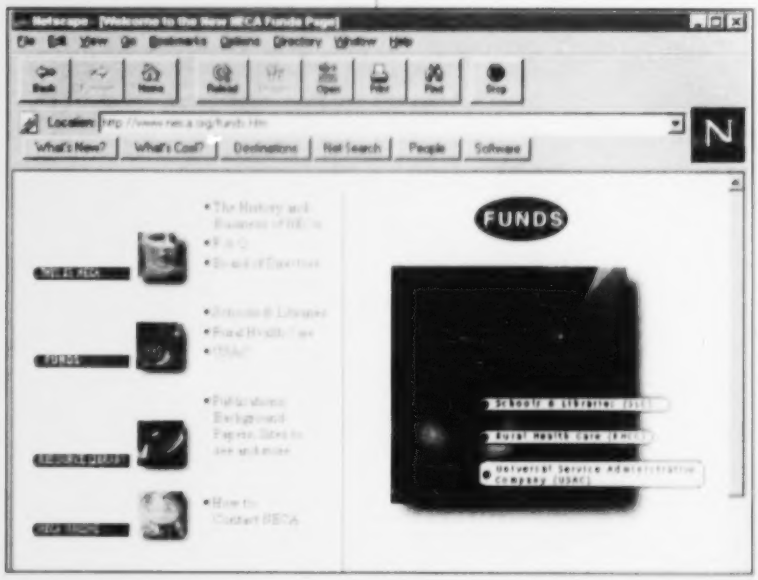
The NECA Web site will post the SLC Web site address and effective date when it becomes available. This site also contains the official FCC application forms and instructions.

http://www.neca.org/funds.htm

U.S. Department of Education

The Department of Education has developed and gathered significant amounts of information about education technology. This site provides information not just about E-rate, but also about other federal programs to help schools use technology effectively.

http://www.ed.gov/Technology



American Library Association—Office for Information Technology

The American Library Association maintains this site to assist libraries with technology issues and E-rate.

http://www.ala.org/oitp/univserv.html

EdLiNC

The official EdLiNC Web site regularly posts information and advocacy material about E-rate.

http://www.itc.org/edlinc

EdLiNC Hotline

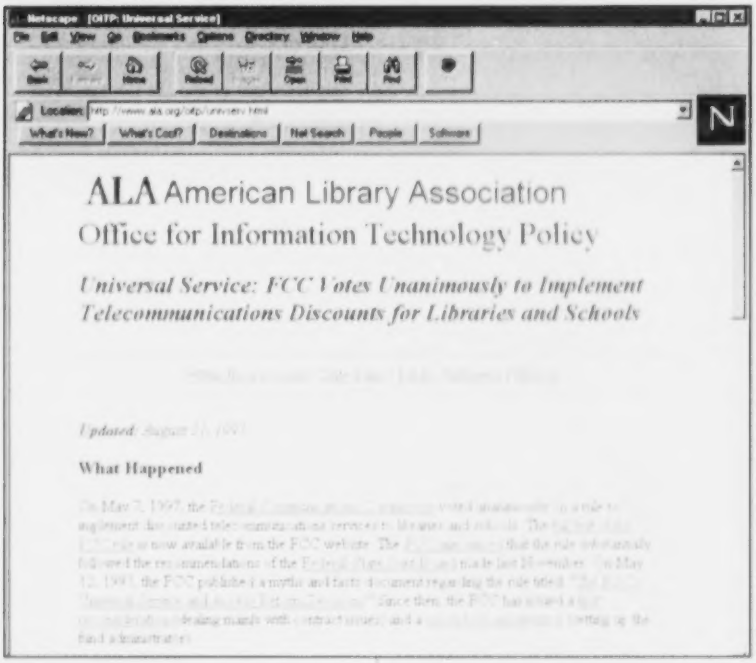
The EdLiNC E-rate Hotline was established to help schools and libraries gain access to the latest information on receiving funding from E-rate. This site also provides an e-mail address and phone number to get your questions answered: 1-800-733-6860.

http://www.eratehotline.org

US WEST HOMEROOM

The US WEST HOMEROOM Web site provides excellent E-rate information. View this site to find the many resources for schools and libraries within the 14-state US WEST service area.

http://www.uswesthomeroom.com/pages/bursar.html


ALA American Library Association
Office for Information Technology Policy
Universal Service: FCC Votes Unanimously to Implement Telecommunications Discounts for Libraries and Schools
What Happened

Schools & Libraries Corporation

The Schools and Libraries Corporation has established a Client Service Help Desk to provide guidance to schools and libraries applying for E-rate support. Client Service Help Desk: 1-888-203-8100 ***question@slcfund.org***

Consortium for School Networking (CoSN)

CoSN educates and informs policymakers on the educational value of telecommunications and provides updates on related policies, issues, and resources through its website, conferences, and newsletters.

http://www.cosn.org

Legislative and State Information

U.S. Department of Health and Human Services

Information on the NSLP can be found at this Web site.

http://aspe.os.dhhs.gov/cfda/p10555.htm

State Departments of Education Technology Initiatives

This site lists contact information for all state departments of education.

http://www.ed.gov/Technology/sta_tech.html

5-2.

Technology Planning

The sites listed here will provide useful information that will assist and guide schools and libraries in their preparation and development of technology inventories and technology plans.

3Com Solutions—Education Resource Center

This Web site offers vital information on topics such as how networks work, as well as information on Internet resources for educators and a teacher training manual.

http://www.3com.com/erc/index.html

Smart Valley Technology Planning Guidebook

An excellent Technology Planning Guide is available at this site.

http://www.svi.org/netday/info/guidebook

National Center for Technology Planning

This site provides many excellent resources for technology planning.

http://www.nctp.com

5-3.

Policy and Procedures

Safety

Safety for Children on the Internet—These sites will provide children with guidance and pointers they may need when online.

http://www.uoknor.edu/oupd/kidsafe/warn_kid.htm

http://www.4j.lane.edu/InternetResources/Safety/Rules.html

Acceptable Use Policy

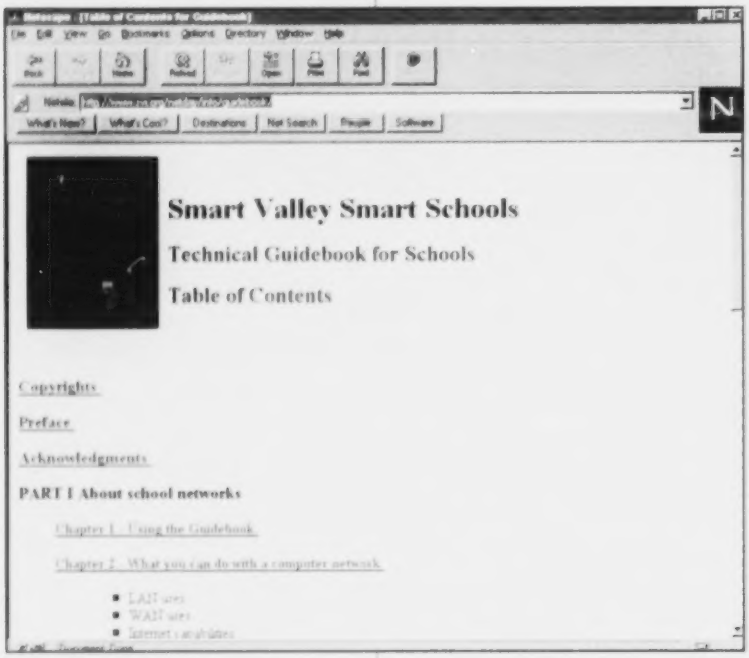
These sites will provide examples of and criteria for developing acceptable use policies that will guide students and staff in using the school's networks and the Internet properly.

http://www.bham.wednet.edu/policies.htm

http://www2.msstate.edu/~fyh1/aup.html

Copyright

Electronic copyright is an important area to include in technology planning and implementation. The following references will provide information and guidance for developing policy and procedures concerning electronic copyright.



http://fairuse.stanford.edu/

The Copyright Primer for Librarians and Educators
2nd Edition, 1995
Janis H. Bruwelheide
American Library Association and National Education Association
ISBN ALA 08389 0647 2

Security

Establishing the appropriate security procedures for a school's or library's computer network is an essential element in the technology planning and implementation process. The following sites will provide helpful information for schools or libraries developing procedures to assure network security.

http://lcweb.loc.gov/global/internet/security.html

http://www.alw.nih.gov/Security/security-faqs.html

5-4.

Technology Models

The following sites, which contain diagrams or models, can help assist schools/libraries in planning computer networks.

A Complete Small School LAN

http://www.cde.ca.gov/ftpbranch/retdiv/k12/ntpg/images/ch05.5.gif

Interconnection of Schools

http://www.cde.ca.gov/ftpbranch/retdiv/k12/ntpg/images/ch05.6.gif

Distributed Network Services

http://www.cde.ca.gov/ftpbranch/retdiv/k12/ntpg/images/ch06.1.gif

Phone Net Diagram

http://www.cde.ca.gov/ftpgranch/retdiv/k12/ntpg/images/ch05.4.gif

Individual Ethernet Connection to a Network

http://www.cde.ca.gov/ftpbranch/retdiv/k12/ntpg/images/ch05.1.gif

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5-5.

Staff and Professional Development

Staff development is essential when integrating technology into the school curriculum. The following sites provide assistance to schools and libraries in designing and implementing staff and professional development plans.

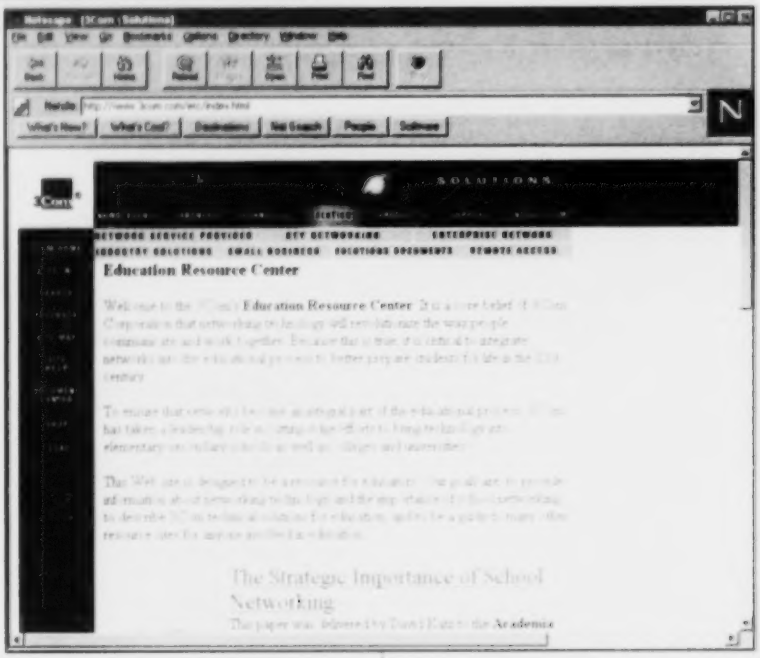
3Com Solutions—Integrating Telecommunication into K-12 Curriculum

This Web site offers vital information on topics such as how networks work, as well as information on Internet resources for educators and a teacher training manual.

http://www.3com.com/erc/index.html

Designing and Implementing Professional Development

http://www.ncrel.org/tandl/implem.htm



5-6.

Frequently Asked Questions

The following Web sites cover excellent examples of frequently asked questions dealing with E-rate.

EdLiNC Hotline

The EdLiNC Hotline was established to help schools and libraries gain access to the latest information on receiving funding from E-rate. Updated regularly, the frequently asked questions section of this Web site will be very helpful to schools and libraries.

http://www.eratehotline.org

Universal Service—Pennsylvania

This is a good resource for schools and libraries planning on applying for E-rate funding.

http://www.info-ren.pitt.edu/us-pa/faq.html

Yolo County Superintendent of Schools

This Web site is an outstanding pool of information for schools and libraries. It is maintained and updated daily. The latest information will be available on this site.

http://www.yolo.k12.ca.us/erate.htm

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India
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Fax: 91 11 623 3192

Indonesia
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Fax: 62 21 572 2089

Osaka, Japan
Phone: 81 6 536 3302
Fax: 81 6 536 3304

Tokyo, Japan
Phone: 81 3 3345 7251
Fax: 81 3 3345 7261

Korea
Phone: 82 2 3455 6300
Fax: 82 2 319 4710

Malaysia
Phone: 60 3 732 7910
Fax: 60 3 732 7917

New Zealand
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Fax: 64 9 366 9139

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Fax: 632 811 5493

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Fax: 32 2 720 1211

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Fax: 31 0346 586222

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Fax: 1 403 265 3268

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Fax: 1 613 233 9527

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Fax: 49 30 34987999

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Fax: 49 89 62732233

Switzerland
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Fax: 41 31 996 14 10

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Fax: 34 1 3076663

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Fax: 353 1 820 7101

3Com Latin America

U.S. Headquarters
Phone: 1 408 326 2093
Fax: 1 408 764 5730

3Com Northern Latin America (Miami, Florida)
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Fax: 1 305 261 4901

Argentina
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Fax: 54 1 314 3029

Brazil
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Fax: 55 11 246 7444

Chile
Phone: 56 2 633 9242
Fax: 56 2 633 8035

Colombia
Phone: 57 1 629 4641
Fax: 57 1 629 4563

Mexico
Phone: 52 5 520 7841/7847
Fax: 52 5 520 78[illegible]

Peru
Phone: 51 1 221 5099
Fax: 51 1 221 5499

Venezuela
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Fax: 39 2 27304244

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Fax: 45 39 27 08 44

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Fax: 358 0 455 51 66

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Fax: 47 22 58 47 01

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Fax: 46 8 632 09 05

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